CDX-U300RF

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model
E Model

SPECIFICATIONS

CDX-U300RF is made up of Compact Disc automatic changer CDX-U300, the remote commander, the display unit.and the hideaway unit with a built-in FM stereo RF modulator.
For Compact Disc automatic changer, please refer to CDX-U300 service manual (9-956-938-11) previously issued.

There is only the information of the remote commander, the display unit and the hideaway unit on this service manual.

The parts which differ from CDX-U300 (except for the remote commander, the display unit and the hideaway unit) are as follows:

1-590-280-41	CORD (WITH CONNECTOR)
*3-365-669-01	TAPE (MALE)
*3-365-670-01	TAPE (FEMALE)
*3-378-208-01	HOLDER (DISPLAY) (US, CND)
3-377-994-11	LABEL, MODEL NUMBER (US, AEP, UK, E)
3-378-001-01	LABEL, MODEL NUMBER (CND)
3-378-209-01	LABEL, MODEL NUMBER (G)
3-378-315-11	INDIVIDUAL CARTON
*3-373-679-01	BOX, RECEIVE, ACCESSORY
3-375-042-01	SUPPORTER
3-701-619-00	BAG, POLYETHYLENE, STANDARD
3-754-978-11	MANUAL, INSTRUCTION (AEP, UK, G) (ENGLISH, FRENCH, GERMAN, ITALIAN, DUTCH)
3-754-978-21	MANUAL, INSTRUCTION (US, CND) (ENGLISH, FRENCH)
3-754-978-41	MANUAL, INSTRUCTION (AEP, UK) (SWEDISH, SPANISH, PORTUGUESE)
3-754-978-51	MANUAL, INSTRUCTION (E) (ENGLISH, SPANISH, CHINESE)
3-754-979-11	MANUAL, INSTRUCTION, INSTALL (AEP, UK, G) (ENGLISH, FRENCH, GERMAN, ITALIAN, DUTCH)
3-754-979-21	MANUAL, INSTRUCTION, INSTALL (US, CND) (ENGLISH, FRENCH)
3-754-979-41	MANUAL, INSTRUCTION, INSTALL (AEP, UK) (SWEDISH, SPANISH, PORTUGUESE)
3-754-979-51	MANUAL, INSTRUCTION, INSTALL (E) (ENGLISH, SPANISH, CHINESE)

MICROFILM

COMPACT DISC PLAYER SYSTEM

SONY®

SPECIFICATIONS

CD changer unit

System	Compact disc digital audio system
Laser Diode Properties	
Material	GaAlAs
Wavelength	780 nm
Emission duration	Continuous
Laser out-put power	Less than 44.6 μW* * This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block.
Frequency response	5 – 20,000 Hz ±1 dB
Wow and flutter	Less than measurable limit
Signal-to-noise ratio	More than 95 dB
Output terminals	UNILINK control output terminal (8 pin) Analogue audio output terminal (RCA pin)
Current drain	800 mA (at playback) 800 mA (at disc loading/ejecting)
Operational temperature	– 10°C – + 55°C (14°F – 131°F)
Dimensions	Approx. 305 × 88 × 177 mm ($12^1/_8 \times 3^1/_2 \times 7$ in.) (w/h/d)
Weight	Approx. 2.5 kg (5 lb. 8 oz.)

Hideaway unit/Remote commander/Display unit

Frequency	88.3 MHz/88.7 MHz (switchable)
Dimensions	
Hideaway unit:	Approx. 140 × 29 × 90 mm ($5^5/_8 \times 1^3/_{16} \times 3^5/_8$ in.) (w/h/d)
Remote commander:	Approx. 66 × 108 × 20 mm ($2^5/_8 \times 4^3/_8 \times {}^{13}/_{16}$ in.) (w/h/d)
Display unit:	Approx. 120 × 37 × 18.5 mm ($4^3/_4 \times 1^1/_2 \times {}^3/_4$ in.) (w/h/d)
Weight	
Hideaway unit:	Approx. 405 g (14 oz.)
Remote commander:	Approx. 55 g (2 oz.) not incl. battery
Display unit:	Approx. 115 g (4 oz.)

Supplied accessories

Disc magazine (1)
Power connecting cord (1)
UNILINK cable (1)
RCA pin cord (1)
Mounting hardware (1)
Size AA (R6) battery (2)

Design and specifications subject to change without notice.

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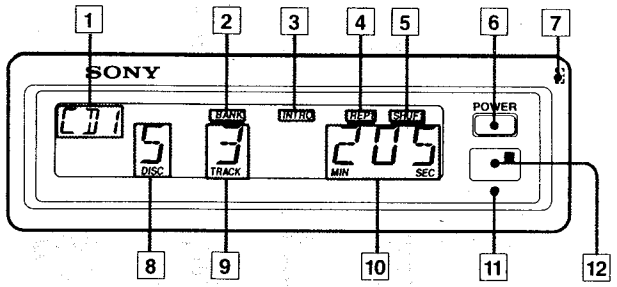
Location and Function of Controls

Display Unit



Refer to the pages in ● for details.

1 **Changer number indication**

2 **BANK function indication**

3 **INTRO scan function indication**

4 **REPEAT play function indication**

5 **SHUFFLE play indication**

6 **POWER switch** ⓫
Press to turn on the system.

7 **Illumination color select switch (rear)**
For changing the color of the display illumination (amber and green).

8 **DISC number indication**

9 **TRACK number indication**

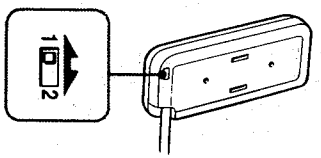
10 **Elapsed playing time indication**

11 **Reset button**
Press this button with a ball-point pen or a similar object when the operation buttons fail to function.

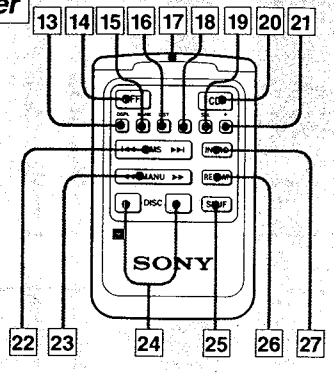
12 **Infrared receptor for the remote commander**

Changing the Color of Illumination

Use the illumination color switch to choose the color of the illumination of the display window between green and amber to match the color of illumination of your car's instrument panel.



Remote Commander



13 **DSPL (display change) button** ⓬ ㉑ ㉕

14 **OFF button** ⓬
Press to turn off the unit.

15 **BANK (bank function) button** ㉔

16 **LIST (custom-file mode select) button** ⓲ ㉒ ㉕ ㉖

17 **Infrared emitter**

18 **– (custom-file letter select) button** ⓲ ㉕ ㉖

19 **SEL (select) button** ⓲ ㉕ ㉖

20 **CD (CD play/CD changer select) button** ⓫ ⓭ ⓲ ㉓

21 **+ (custom-file letter select) button** ⓲ ㉕ ㉖

22 **⏮ AMS ⏭ (automatic music sensor) button** ⓮

23 **◀◀ MANU ▶▶ (manual search) button** ⓮

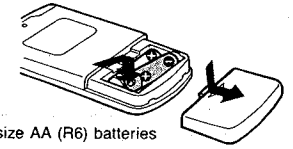
24 **– DISC + (disc select) buttons** ⓭ ⓳ ㉓

25 **SHUF (shuffle play) button** ⓯

26 **REPEAT (repeat play) button** ⓰

27 **INTRO (intro play) button** ⓱

Installing the Batteries



Two size AA (R6) batteries

Battery life

When the batteries become weak, you will not be able to operate the unit with the remote commander. Battery life is approx. six months although it depends on the way of use.

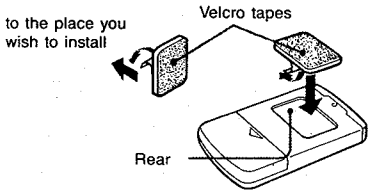
Notes on batteries

To avoid damage from battery leakage and corrosion:

—insert the batteries with the correct polarity
—do not use an old battery with a new one, or different types of batteries together
—remove the batteries when you do not use the unit for a long period of time
—do not charge the batteries.

If any battery leakage occurs, replace the batteries with new ones after cleaning the battery compartment.

Installing the Remote Commander



Install the remote commander with velcro tape in a desired place.

Notes

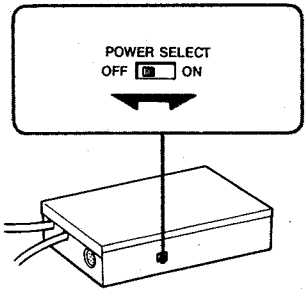
- Do not install or leave the remote commander in a location near any heat sources, or in a place subject to direct sunlight (especially on the dashboard in summer etc.).
- When you park the car in direct sunlight, detach the remote commander and place it in a location not subject to direct sunlight such as the glove-box.
- Before installing the remote commander, be sure to confirm whether you can remote control the unit from the place you intend to install.
- Before attaching the velcro tape, clean the surface.

Switches Requiring Initial Settings

POWER SELECT Switch

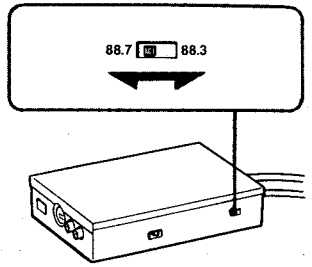
The display on the display unit is factory-set to come on when the ignition key of your car is turned on. However, this setting may cause some car battery wear if used in a car which has no ACC (accessory) position on the ignition key panel. To avoid battery wear when used in such a car, set the POWER SELECT switch located on the side of the hideaway unit to the OFF position*.
When the ignition key is turned off, the display on the display unit will go off as well. When you change the setting of the POWER SELECT switch, be sure to press the reset button on the display unit.

* When the POWER SELECT switch is set to the OFF position, you will not be able to start CD play with the remote commander while the system is in the off mode, that is to say when there is no display on the display unit. Press the POWER switch on the display unit before operating the remote commander.



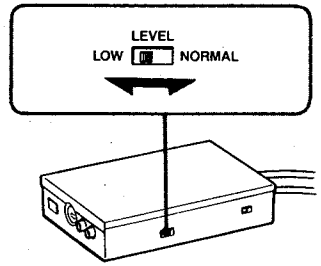
Frequency Select Switch

With this switch you can select the frequency of the modulated RF signal from the hideaway unit to be either 88.3 MHz or 88.7 MHz. Set the switch located on the side of the unit to the position with less noise being picked up by your car audio. Adjust the FM tuner of your car audio so that it can receive the RF signal transmitted from the hideaway unit.



LEVEL (input level) Select Switch

With this switch you can select the input level of the RF signal to your car audio from the CD changer unit. Set the LEVEL switch on the side of the hideaway unit to the suitable position: normally set it to the "NORMAL" position and when the input level is desired to be lower, set it to the "LOW" position.



Installation/Installation

Precautions

- Choose the mounting location carefully, observing the followings:
  — The fuel tank should not be damaged by the tapping screws.
  — There should be no wire harnesses nor pipelines under the place where you are going to install the unit.
  — The spare tire, tools or other equipment in or under the trunk should not be interfered with or damaged by the screws or the unit itself.
- Be sure to use only the supplied mounting hardware for a safe and secure installation.

Précautions

- Choisir soigneusement l'emplacement de montage en observant ce qui suit.
  — Le réservoir d'essence ne doit pas être endommagé par les vis taraudeuses.
  — Il ne doit pas y avoir de faisceau de fils ou de tuyaux à l'endroit où l'on désire installer l'appareil.
  — La roue de secours, les outils ou autre équipement dans ou sous le coffre ne doivent pas être gênés ni endommagés par les vis ou l'appareil lui-même.
- S'assurer d'utiliser uniquement le matériel de montage fourni pour une installation correcte et sûre.

Remote Commander and Display Unit

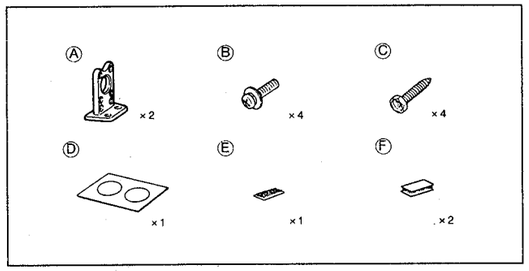
- Avoid mounting them in the following locations where they may:
  — hinder normal driving conditions of the driver.
  — jeopardize the passengers.
  — be subjected to the hot air from the heater.
  — be subjected to direct sunlight.
- When installing the system, be sure to check that the whole system can be operated by the remote commander.

Télécommande et dispositif d'affichage

- Eviter de les monter dans des endroits où ils pourraient:
  — Gêner la conduite normale du véhicule,
  — Mettre les passagers en danger,
  — Etre exposés au courant d'air chaud du chauffage,
  — Etre exposés directement au soleil.
- Lors de l'installation du système, prendre soin de vérifier que la télécommande peut commander tout le système.

Supplied Mounting Hardware
Matériel de montage fourni

The letters in the list are keyed to those in the instructions.
Les lettres de la liste correspondent à celles des instructions.

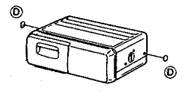


How to Install the Unit

When you install the unit, be careful not to damage wiring or equipment on the other side.

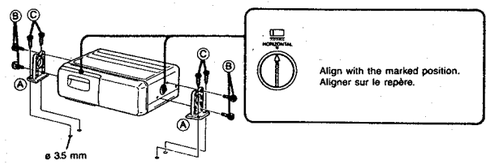
Horizontal installation

1



Cover the holes which are not used.
Recouvrir les orifices qui ne sont pas utilisés.

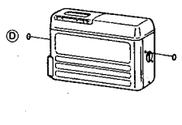
2



Align with the marked position.
Aligner sur le repère.

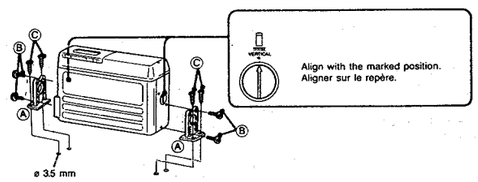
Vertical installation

1



Cover the holes which are not used.
Recouvrir les orifices qui ne sont pas utilisés.

2

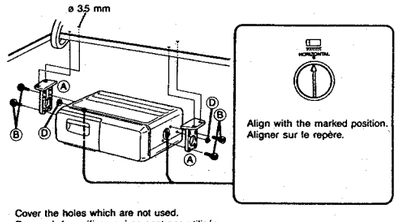


Align with the marked position.
Aligner sur le repère.

Suspended installation

When the unit is to be installed under the rear tray etc. in the trunk room, make sure that the following provisions are made.
- Choose the mounting location carefully so that the unit can be installed horizontally.
- Make sure that the unit does not hinder the movement of torsion bar spring etc. of the trunk lid.

1



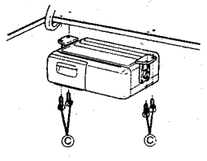
Align with the marked position.
Aligner sur le repère.

Cover the holes which are not used.
Recouvrir les orifices qui ne sont pas utilisés.

Installation suspendue

Si l'appareil doit être installé sous la plage arrière dans le coffre, par exemple, prenez d'abord les précautions suivantes.
- Bien choisir l'emplacement pour pouvoir installer l'appareil à l'horizontale.
- Vérifier que l'appareil ne gêne pas le mouvement du ressort du capot, entre autres.

2



Installation de l'appareil

Lors de l'installation de l'appareil, veiller à ne pas endommager le câblage ou les instruments de l'autre côté.

Installation horizontale

1

Cover the holes which are not used.
Recouvrir les orifices qui ne sont pas utilisés.

2

Align with the marked position.
Aligner sur le repère.

Installation verticale

1

Cover the holes which are not used.
Recouvrir les orifices qui ne sont pas utilisés.

2

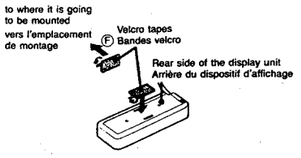
Align with the marked position.
Aligner sur le repère.

Installing the Display Unit

Use the supplied velcro tapes or the display stand and mount it to the location where it will not interfere with your driving.

Installation du dispositif d'affichage

Utiliser les bandes velcro fournies ou le support d'affichage pour installer le dispositif d'affichage dans un endroit qui ne risque pas de gêner la conduite.

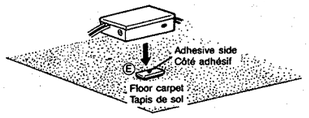

to where it is going to be mounted
vers l'emplacement de montage
Velcro tapes
Ⓕ Bandes velcro
Rear side of the display unit
Arrière du dispositif d'affichage

Installing the Hideaway Unit

Use the supplied velcro tapes and attach it to the floor carpet under a seat.

Installation de l'appareil dissimulé

Utiliser les bandes velcro fournies et fixer l'appareil sur le tapis de sol sous un siège.

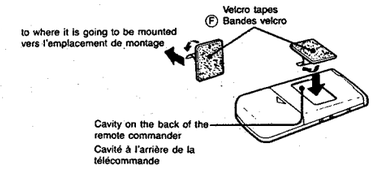


Installing the Remote Commander

Use the supplied velcro tapes and mount it to a suitable location where it will not interfere your driving.

Installation de la télécommande

Utiliser les bandes velcro fournies pour installer la télécommande dans un endroit approprié, sans gêner la conduite.


Velcro tapes
Ⓕ Bandes velcro
to where it is going to be mounted
vers l'emplacement de montage
Cavity on the back of the remote commander
Cavité à l'arrière de la télécommande

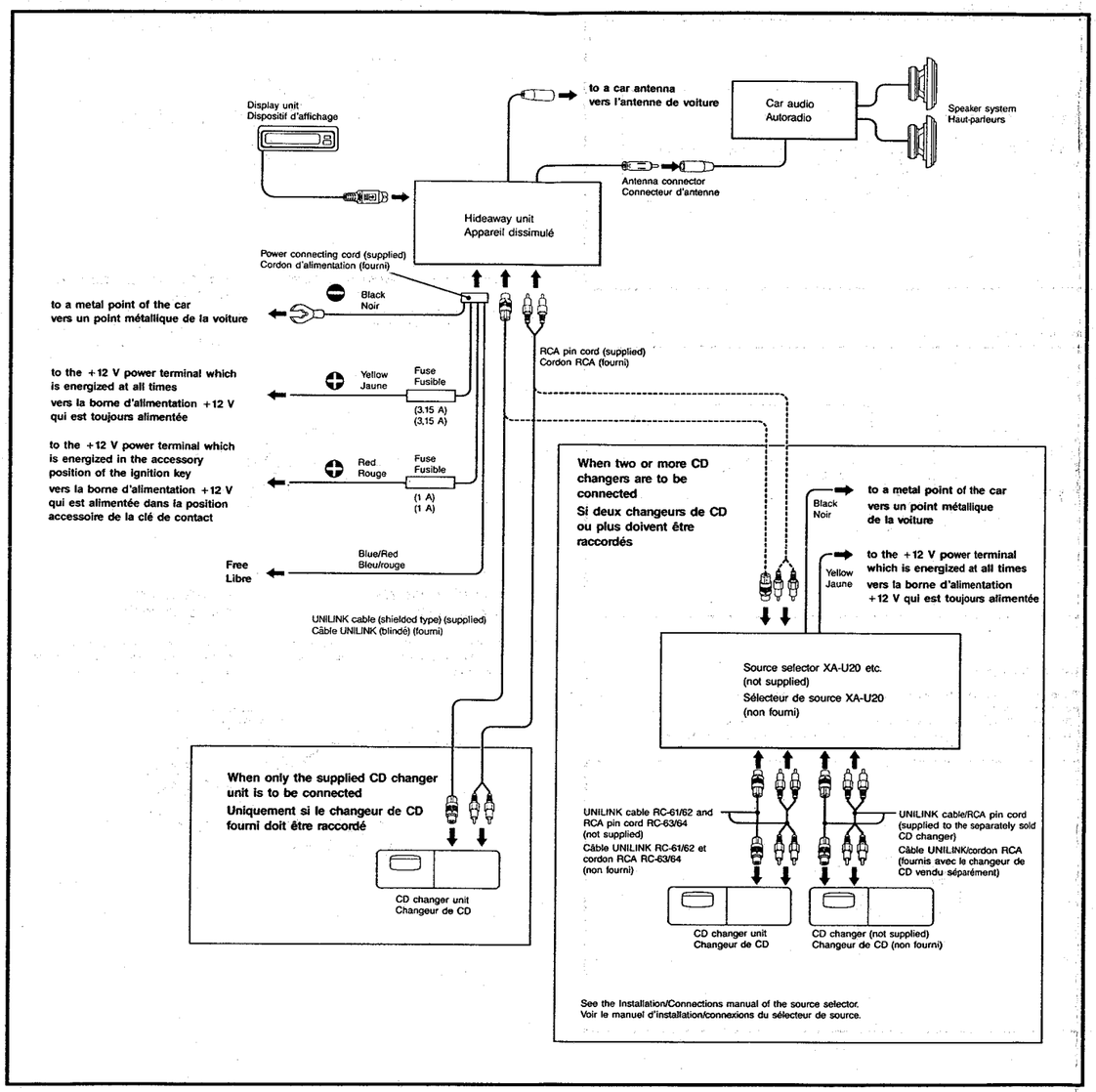
Connections/Connexions

Caution
Before making connections, disconnect the ground wire terminal of the car battery to avoid short circuits.

Note
Be sure to use the supplied extension cord. Using a cord other than supplied one may cause noise.
For details, refer to the Installation/Connection manual of each product.

Attention
Avant d'effectuer les connexions, débrancher le fil de masse de la batterie de voiture pour éviter un court-circuit.

Remarque
S'assurer d'utiliser le cordon de rallongement fourni. D'autres cordons risqueraient de causer des parasites.
Pour plus de détails, se reporter au mode d'emploi pour l'installation/connexion de chaque produit.


Display unit
Dispositif d'affichage
to a car antenna
vers l'antenne de voiture
Car audio
Autoradio
Speaker system
Haut-parleurs
Antenna connector
Connecteur d'antenne
Hideaway unit
Appareil dissimulé
Power connecting cord (supplied)
Cordon d'alimentation (fourni)
to a metal point of the car
vers un point métallique de la voiture
Black
Noir
RCA pin cord (supplied)
Cordon RCA (fourni)
to the +12 V power terminal which is energized at all times
vers la borne d'alimentation +12 V qui est toujours alimentée
Yellow
Jaune
Fuse
Fusible
(3.15 A)
(3,15 A)
to the +12 V power terminal which is energized in the accessory position of the ignition key
vers la borne d'alimentation +12 V qui est alimentée dans la position accessoire de la clé de contact
Red
Rouge
Fuse
Fusible
(1 A)
(1 A)
Free
Libre
Blue/Red
Bleu/rouge
UNILINK cable (shielded type) (supplied)
Câble UNILINK (blindé) (fourni)
When two or more CD changers are to be connected
Si deux changeurs de CD ou plus doivent être raccordés
Black
Noir
to a metal point of the car
vers un point métallique de la voiture
Yellow
Jaune
to the +12 V power terminal which is energized at all times
vers la borne d'alimentation +12 V qui est toujours alimentée
Source selector XA-U20 etc.
(not supplied)
Sélecteur de source XA-U20
(non fourni)
When only the supplied CD changer unit is to be connected
Uniquement si le changeur de CD fourni doit être raccordé
UNILINK cable RC-61/62 and RCA pin cord RC-63/64
(not supplied)
Câble UNILINK RC-61/62 et cordon RCA RC-63/64
(non fourni)
UNILINK cable/RCA pin cord
(supplied to the separately sold CD changer)
Câble UNILINK/cordon RCA
(fournis avec le changeur de CD vendu séparément)
CD changer unit
Changeur de CD
CD changer unit
Changeur de CD
CD changer (not supplied)
Changeur de CD (non fourni)
See the Installation/Connections manual of the source selector.
Voir le manuel d'installation/connexions du sélecteur de source.

Installing the System in a Car without Accessory Position

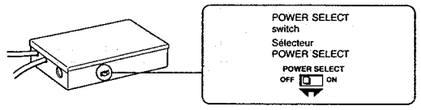
POWER SELECT switch setting
When this system is to be installed in a car with no ACC (accessory) position on the ignition panel, set the POWER SELECT switch on the side of the hideaway unit to the OFF position. After the switch has been set, the power supply to this system will be turned off whenever the OFF button on the remote commander or the POWER switch on the display unit is pressed while the system is operating. However, when you turn off the ignition of your car, be sure to turn off the power supply by pressing either of the above mentioned buttons in order to conserve the car battery. (If you use this system with the POWER SELECT switch set to the ON position in a car with no accessory position, the OFF button or the POWER switch will not turn off the power supply to the whole system.)
When you change the setting of the POWER SELECT switch, be sure to press the reset button on the display unit with a ball-point pen or similar object.

Note
When the POWER SELECT switch is set to the OFF position, you will not be able to start CD play with the remote commander while the system is in the off mode, that is to say when there is no display on the display unit.
Press the POWER switch on the display unit before operating the remote commander.

Installation du système dans une voiture sans position accessoire

Réglage du sélecteur POWER SELECT
Si ce système doit être installé dans une voiture sans position ACC (accessoire) au contact, régler le sélecteur POWER SELECT situé sur le côté de l'appareil dissimulé sur la position OFF. Avec ce réglage, l'alimentation du système est coupée à chaque fois que la touche OFF de la télécommande ou l'interrupteur POWER du dispositif d'affichage est actionné pendant que le système est en marche. Cependant, si vous tournez la clé de contact de la voiture, n'oubliez pas de mettre le système hors tension en actionnant une des commandes ci-dessus pour conserver l'énergie de la batterie du véhicule. (Si vous utilisez ce système avec le sélecteur POWER SELECT réglé sur la position ON dans une voiture sans position accessoire, la touche OFF ou l'interrupteur POWER ne coupent pas l'alimentation du système entier.)
Si vous modifiez le réglage du sélecteur POWER SELECT, n'oubliez pas d'actionner la touche de réinitialisation du dispositif d'affichage à l'aide d'un stylo ou autre objet similaire.

Remarque
Lorsque le sélecteur POWER SELECT est réglé sur la position OFF, vous ne pouvez pas commander la lecture de CD depuis la télécommande tant que le système est hors tension, c'est-à-dire tant que l'afficheur n'est pas allumé.
Appuyer sur l'interrupteur POWER du dispositif d'affichage avant d'utiliser la télécommande.

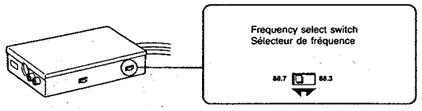


When There is Too Much Interference Noise During CD play

Frequency select switch setting
With this switch you can select the frequency of the modulated RF signal from the hideaway unit to be either 88.3 MHz or 88.7 MHz. Set the switch located on the side of the unit to the position with less noise being picked up by your car audio. Adjust the FM tuner of your car audio so that it can receive the RF signal transmitted from the hideaway unit.

S'il y a trop d'interférences pendant la lecture d'un CD

Sélecteur de fréquence
Ce sélecteur vous permet de choisir la fréquence du signal HF modulé depuis l'appareil dissimulé, entre 88,3 MHz et 88,7 MHz. Régler le sélecteur situé sur le côté de l'appareil sur la position réduisant le plus les parasites captés par l'autoradio. Accorder le tuner FM de l'autoradio sur le signal HF transmis par l'appareil dissimulé.

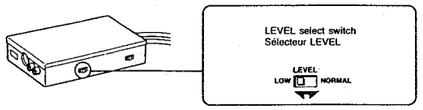


Selecting the Input Level

LEVEL (input level) select switch setting
With this switch you can select the input level of the RF signal to your car audio from the CD changer unit. Set the LEVEL switch on the side of the hideaway unit to the suitable position: normally set it to the "NORMAL" position and when the input level is desired to be lower, set it to the "LOW" position.

Sélection du niveau d'entrée

Réglage du sélecteur LEVEL
Ce sélecteur vous permet de choisir le niveau d'entrée du signal HF fourni à l'autoradio depuis l'appareil dissimulé. Régler le sélecteur LEVEL au côté de l'appareil dissimulé sur la position adéquate: normalement, le régler sur "NORMAL", et pour obtenir un niveau d'entrée plus bas, le régler sur "LOW".

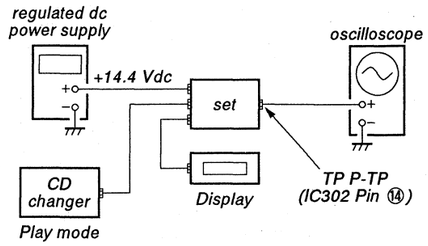


SECTION 2
ELECTRICAL ADJUSTMENTS

Note: Don't move VR302 on replacing ICs or others.

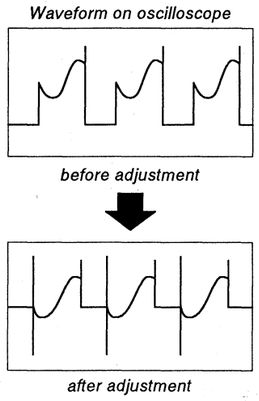
2-1. DC BALANCE ADJUSTMENT

Connection:



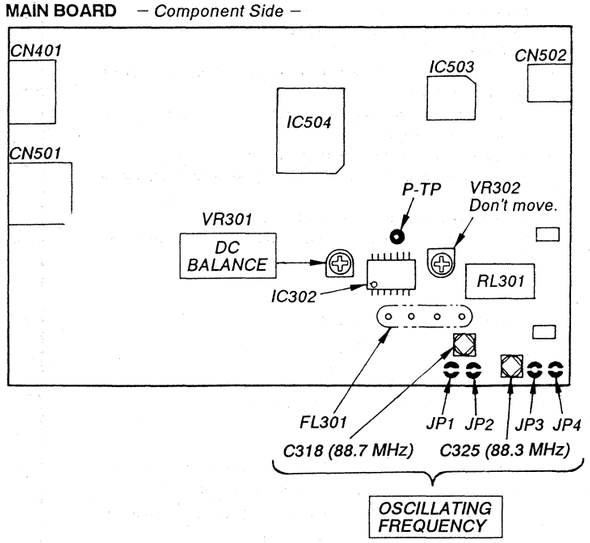
Procedure:

1. Adjust with VR301 so that the 38 kHz signal leakage becomes minimum.



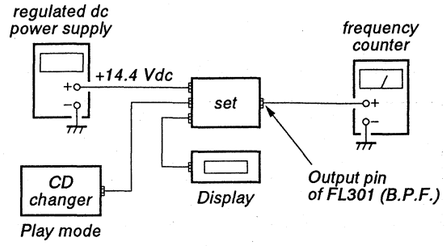
Adjustment Location:

MAIN BOARD – *Component Side* –



2-2. OSCILLATING FREQUENCY ADJUSTMENT

Connection:



Procedure:

1. Coarse Adjustment
1) Set SW301 to 88.3 MHz.
2) Check the reading on frequncy counter.

Reading (MHz)	Solder bridge
Less than 88.23	not required
88.23 or more Less than 88.30	JP1, JP3
88.30 or more	JP2, JP4

2. Fine Adjustment
1) Set SW301 to 88.7 MHz.
2) Adjust with C318 so that the reading on frequency counter becomes 88.700 ± 0.001 MHz.
3) Set SW301 to 88.3 MHz.
4) Adjust with C325 so that the reading on frequency counter becomes 88.300 ± 0.001MHz.
5) Repeat items 1) to 4).

SECTION 3
DIAGRAMS

3-1. MASTER MICROCOMPUTER (IC504 μPD75116GF-F13) PIN DESCRIPTION

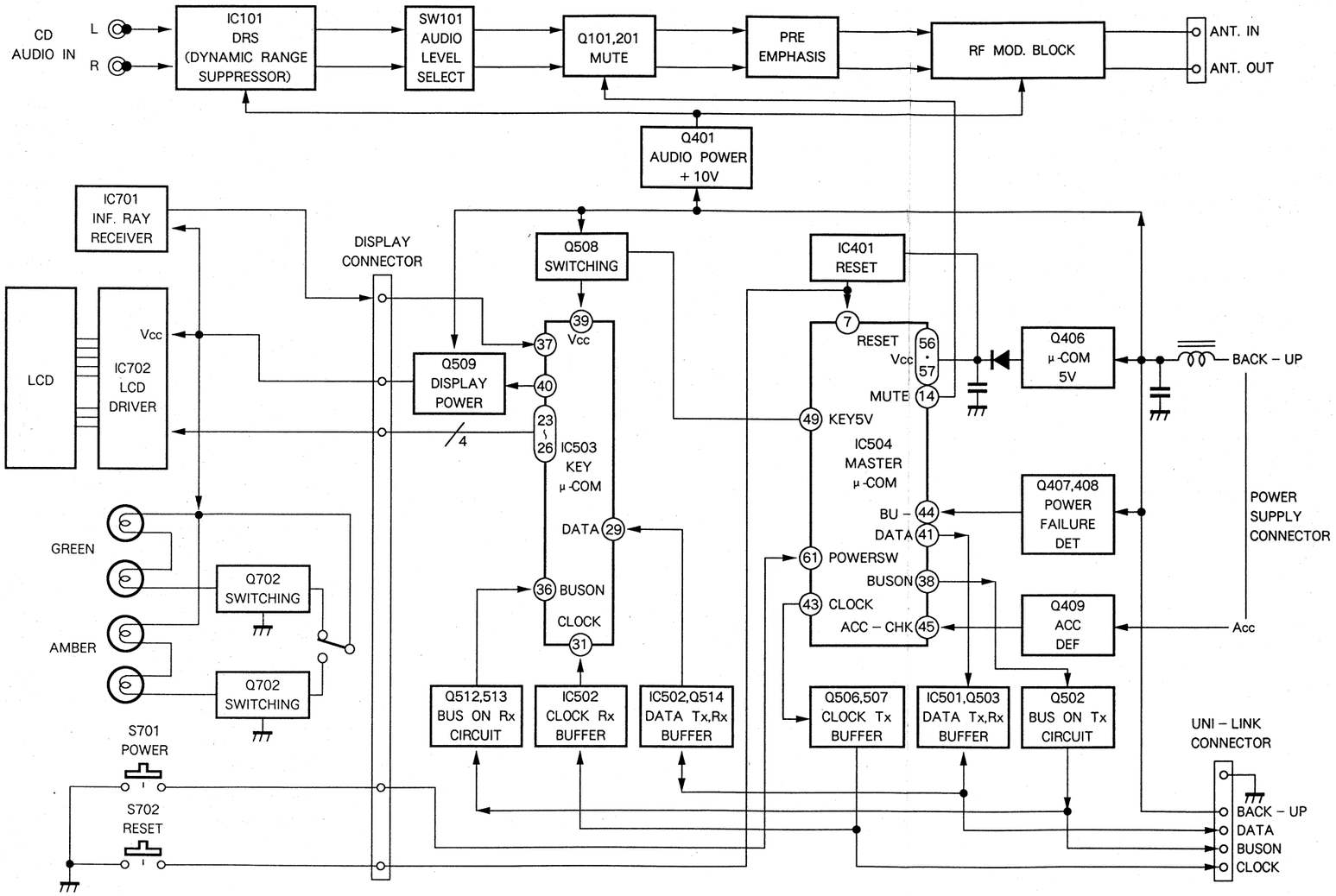
Pin No.	Port Name	I/O	Signal	Active	Function	Usage
1	P41	I				Vss
2	P40	I				Vss
3	P53	O	LINK OFF	H		OPEN
4	P52	O	PAMP ON	H		OPEN
5	P51	O	P-ON	H		–
6	P50	O	ACC ON	H		OPEN
7	$\overline{\text{RESET}}$	I	$\overline{\text{RESET}}$	L	Power on reset	–
8	X2	–	X2	–	Clock connecting terminal	–
9	X1	–	X1	–	Clock connecting terminal	–
10	P63	O				OPEN
11	P62	O				OPEN
12	P61	O	SYSTEM-RESET	L	NEW-BUS RESET	–
13	P60	O	SYNC		NEW-BUS SYNC	–
14	P73	O	MUTE	H	Audio mute out	–
15	P72	O	CLK-VOL			OPEN
16	P71	O	DATA-VOL			OPEN
17	P70	O	CE-VOL			OPEN
18	P83	I				Vss
19	P82	I				Vss
20	P81	I	$\overline{\text{CLK}}$	L	Clock function within/without	Vss
21	P80	I	POWER SELECT	H	Power select in	–
22	P93	O				OPEN
23	P92	O				OPEN
24	P91	O				OPEN
25	P90	O				OPEN
26	Vss	–				Vss
27	P13/INT3	I	TEST-MODE	L	Test mode in (INT)	Pull up
28	P12/INT2	I	SERVICE-MODE	L	Service mode in (INT)	Pull up
29	P11/INT1	I				Vss
30	P10/INT0	I				Vss
31	PTH03	I				Vss
32	PTH02	I				Vss
33	PTH01	I				Vss
34	PTH00	I				Vss
35	TI0	I				Vss
36	TI1	I			Time polling exist/none	Vss
37	P23	O	CLOCK-OUT		New-Bus clock out	–
38	P22/PCL	O	$\overline{\text{BUS-ON}}$	L	New-Bus bus on out	–
39	P21/PTO1	O	KEY-RESET	H	Key microcomputer reset out	–
40	P20/PTO0	O	BEEP	–	Beep out	OPEN
41	P03/SI	I	SI		New-Bus serial data in	–
42	P02/SO	O	SO		New-Bus serial data out	–
43	P01/$\overline{\text{SCK}}$	I	CLOCK-IN		New-Bus clock in	–
44	P00/INT4	I	BU-CHK	H	Back-up power supply check in	–

Pin No.	Port Name	I/O	Signal Name	Active	Function	Usage
45	P123	I	ACC-CHECK	L	Accessory power supply check in	–
46	P122	I	TEL MUTE	L	Telephone mute in	Pull up
47	P121	I				Vss
48	P120	I	TV 2 BAND	–	TV BAND SEL I/2	Vss
49	P133	O	KEY 5V	L	Key microcomputer power on	–
50	P132	O				OPEN
51	P131	O				OPEN
52	P130	O				OPEN
53	P143	O				OPEN
54	P142	O			ANT-ON	OPEN
55	P141	O				OPEN
56	P140	O				OPEN
57	NC	–				VDD
58	VDD	–			Power supply with back-up in	VDD
59	P33	O				OPEN
60	P32	O				OPEN
61	P31	I	POWER-SW	L	"POWER" switch in	–
62	P30	I				Vss
63	P43	I				Vss
64	P42	I				Vss

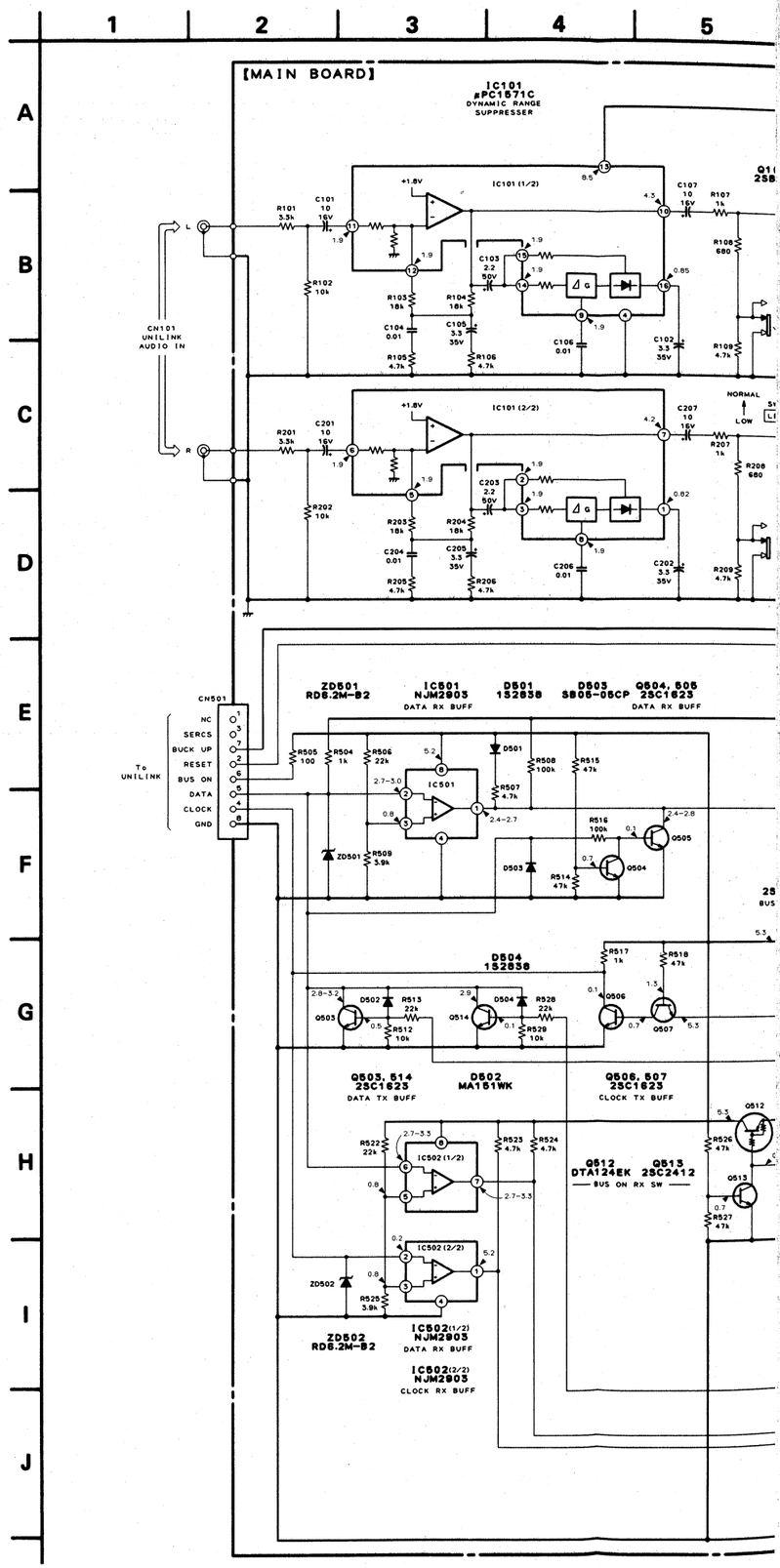
3-2. KEY MICROCOMPUTER (IC503 μPD75008GB-658) PIN DESCRIPTION

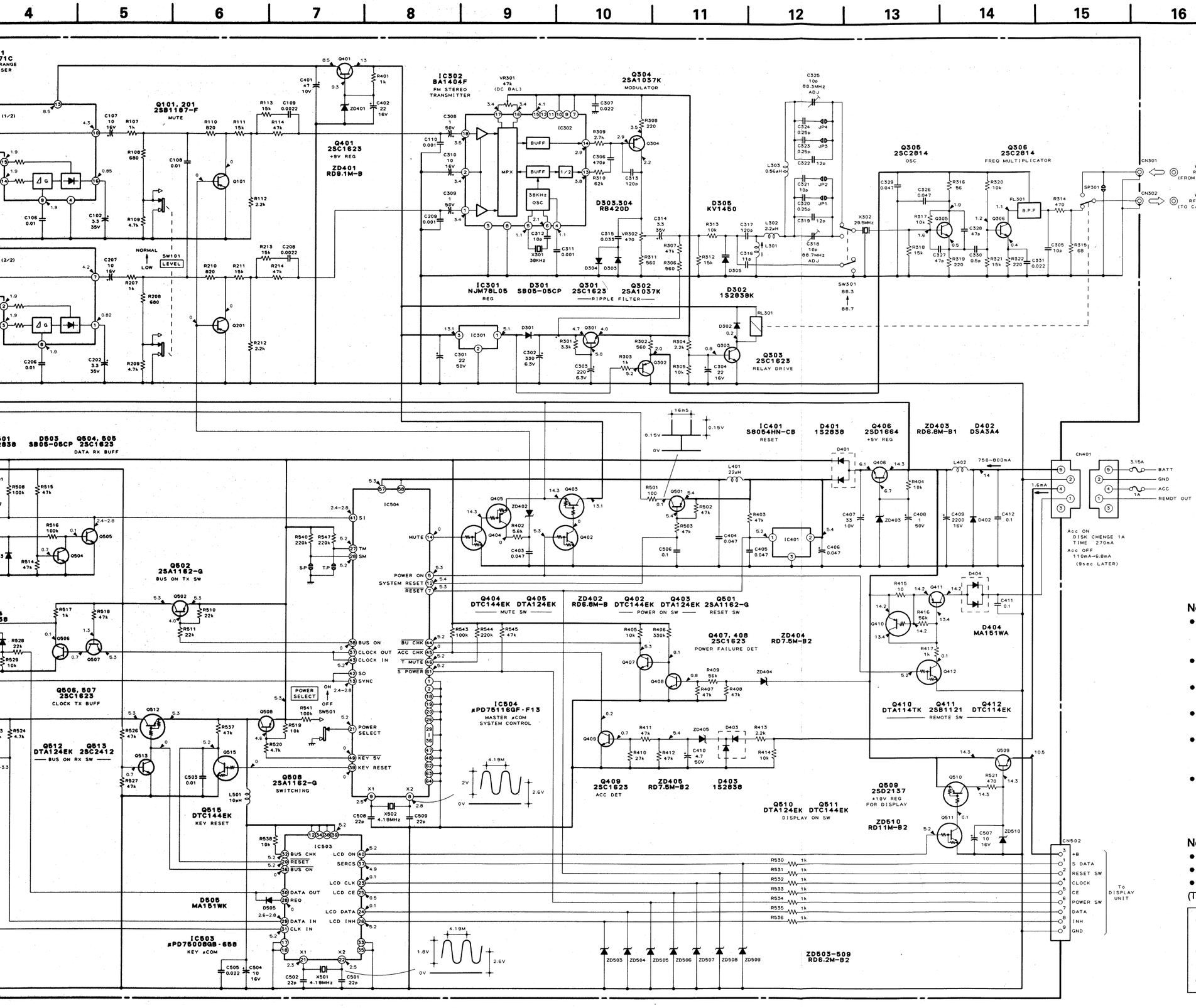
Pin No.	Port Name	I/O	Signal Name	Active	Function	Usage
1	P72/KR6	I	KI6		Key scan in	OPEN
2	P71/KR5	I	KI5		Key scan in	OPEN
3	P70/KR4	I	KI4		Key scan in	OPEN
4	P63/KR3	I	KI3		Key scan in	OPEN
5	P62/KR2	I	KI2		Key scan in	OPEN
6	P61/KR1	I	KI1		Key scan in	OPEN
7	P60/KR0	I	KI0		Key scan in	OPEN
8	P53	O	KO3		Key scan out	OPEN
9	P52	O	KO2		Key scan out	OPEN
10	P51	O	KO1		Key scan out	OPEN
11	P50	O	KO0		Key scan out	OPEN
12	NC	–				Vcc
13	P43					OPEN
14	P42					OPEN
15	P41					OPEN
16	P40					OPEN
17	Vss	–				Vss
18	XT1	–				Vss
19	XT2	–				OPEN
20	RESET	I	RESET	L		–
21	X1	–	X1	–	Clock oscillating terminal	–
22	X2	–	X2	–	Clock oscillating terminal	–
23	P33	O	LCD-CLOCK		Clock for LCD driver	–
24	P32	O	LCD-DATA		Serial data for LCD driver	–
25	P31	O	LCD-CE		Chip select for LCD driver	–
26	P30	O	LCD-INH		Inhibit for LCD driver	–
27	P81	O	LINK-OFF			OPEN
28	P80	O	REQ	H	REQ out for New-Bus	–
29	P03/SI/SB1	I	DATA-IN		Data in for New-Bus	–
30	P02/SO/SB0	O	DATA-OUT		Data out for New-Bus	–
31	P01/SCK	I	CLK-IN		Clock in for New-Bus	–
32	P00/INT4	I	BACKUP-CHK		Back-up check in	Pull up
33	P13/TI0				Key main/sub	Vss
34	NC	–				Vcc
35	P12/INT2	I	TV		TV use /not use	Vss
36	P11/INT1	I	BUS-ON		NEW-BUS BUS-ON CHECK	–
37	P10/INT0	I	SERCS		SIRCS in	–
38	NC	–				Vcc
39	VDD	–				Vcc
40	P23/BUZ	O	LCD-ON		Display power on	OPEN
41	P22/PCL	O	ACC-ON-ILL			OPEN
42	P21	O	P-ON-ILL			OPEN
43	P20/PTO0	O	COLOR		Illumination select out	OPEN
44	R73/KR7	I	KI7		Key scan in	OPEN

3-3. BLOCK DIAGRAM



3-4. HIDEAWAY UNIT SCHEMATIC DIAGRAM





Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- Power voltage is dc 14.4 V and fed with regulated dc power supply from CN401.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- Voltages are taken with a VOM (10 MΩ/V).
  Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
  Voltage variations may be noted due to normal production tolerances.

Note on Printed Wiring Board:

- ○—— : parts extracted from the component side.
- ● : Through hole.
- ▒▒ : Pattern from the side which enables seeing.

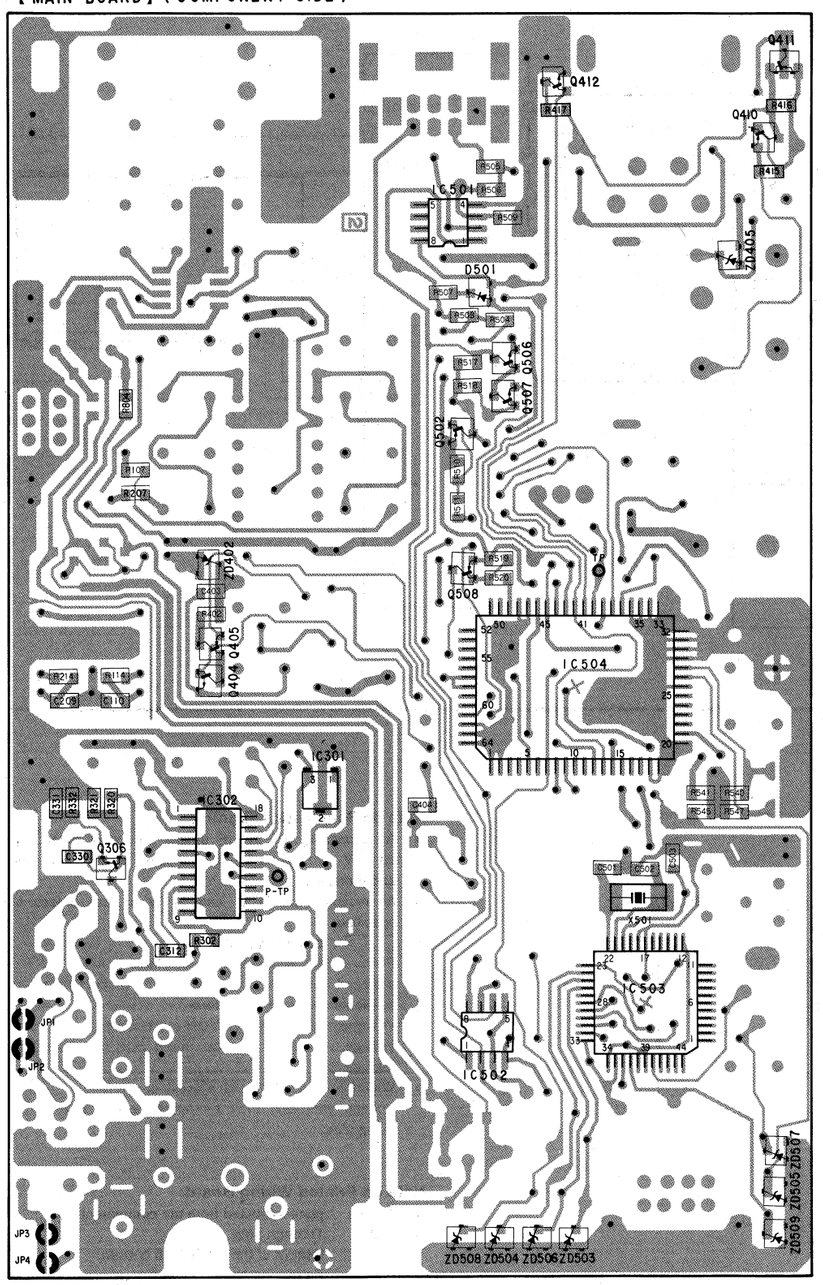
(The other layers' patterns are not indicated.)

Caution:	
Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component Side)	Parts on the parts face side seen from the parts face are indicated.

3-5. HIDEAWAY UNIT RINTED WIRING BOARD

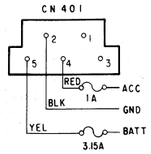
• See page 20 for Semiconductor Lead Layouts.

【MAIN BOARD】(COMPONENT SIDE)

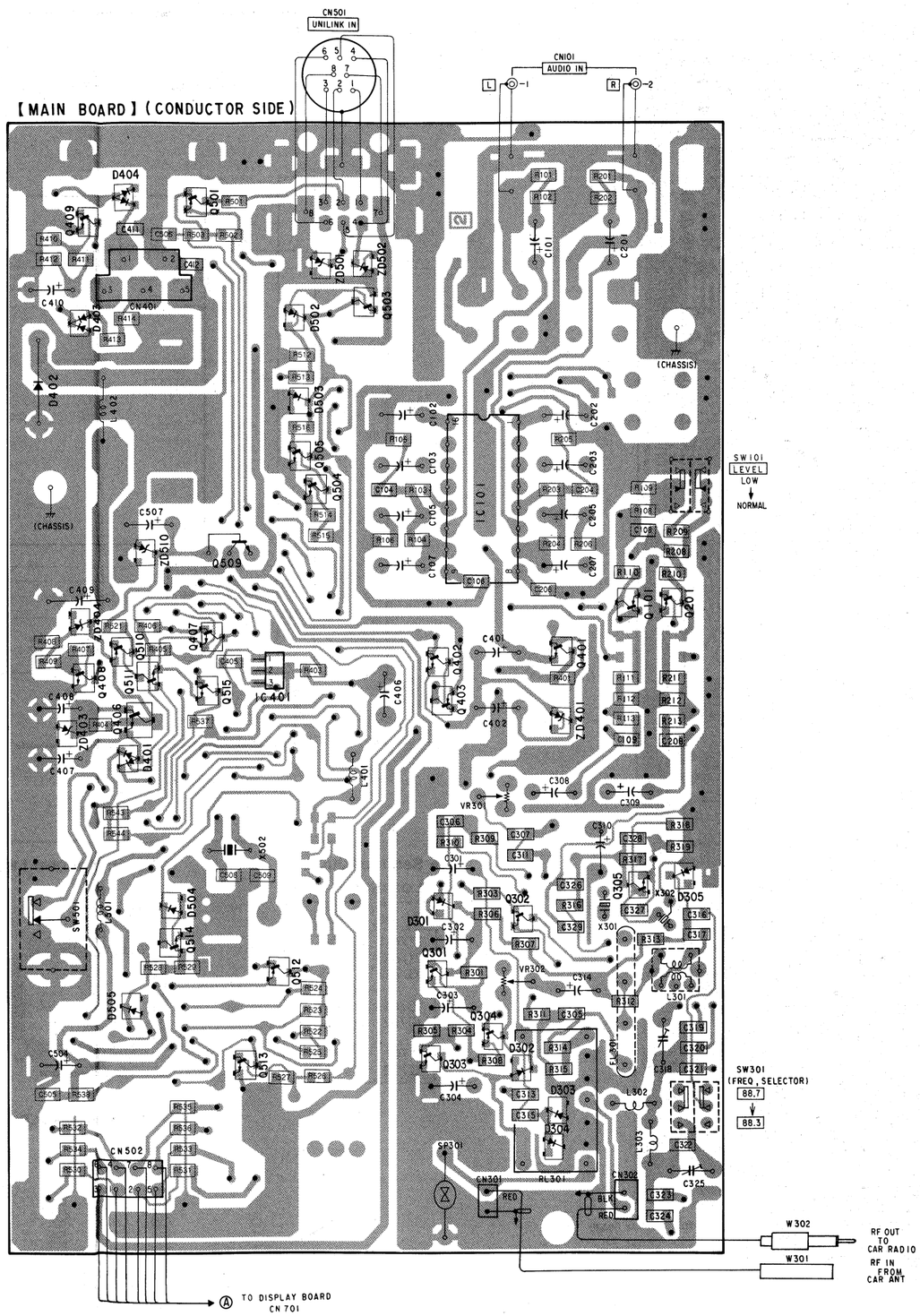


05

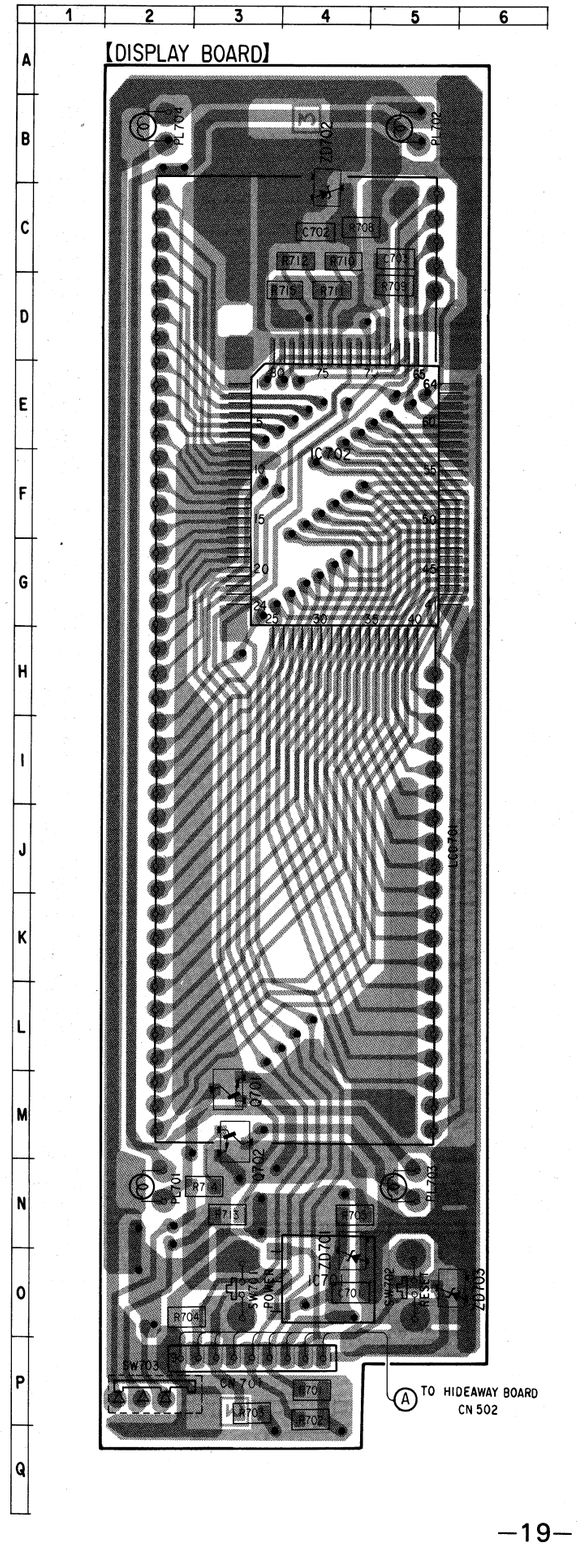
CN401

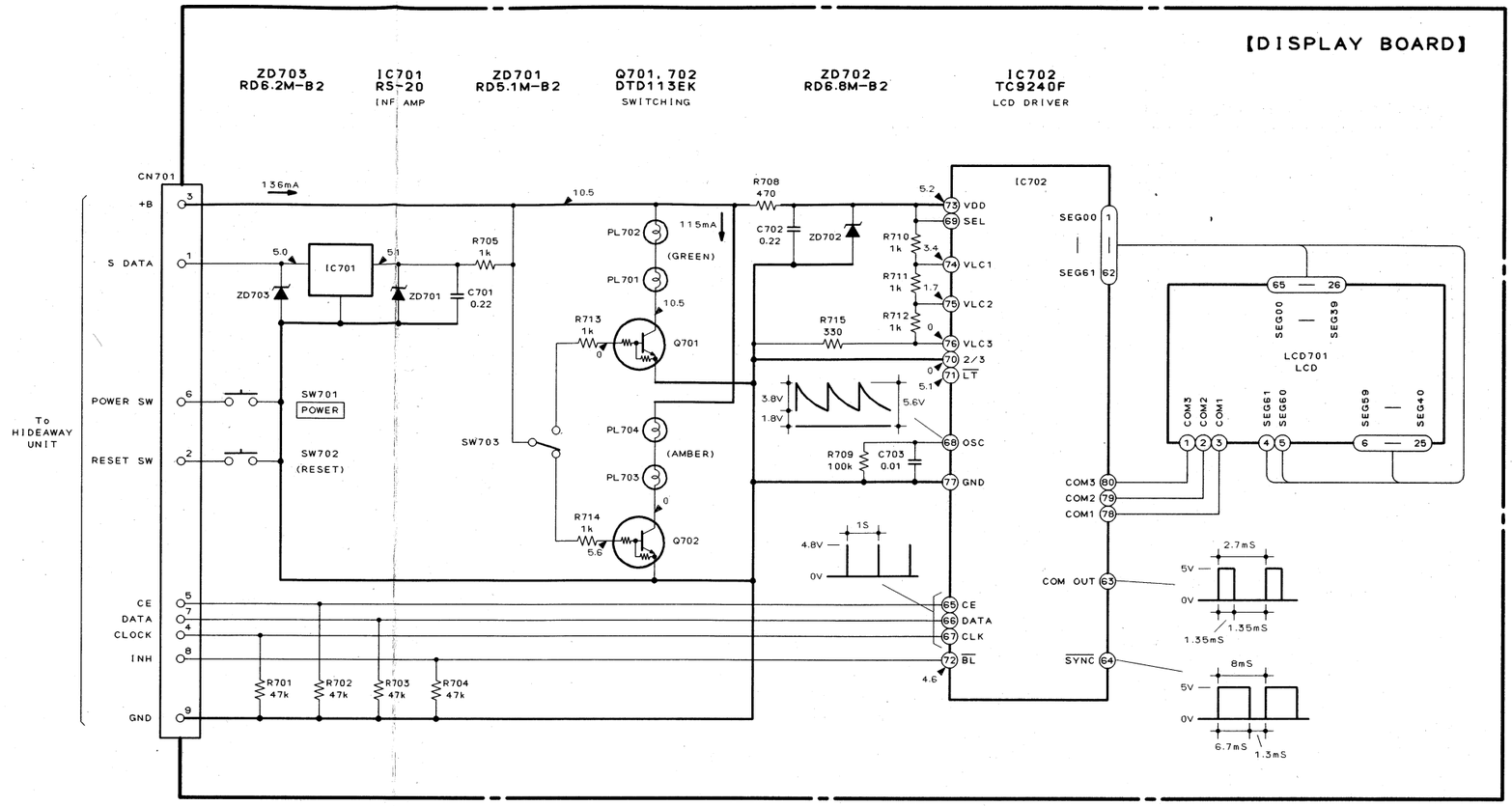


【MAIN BOARD】(CONDUCTOR SIDE)



3-6. DISPLAY UNIT PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM



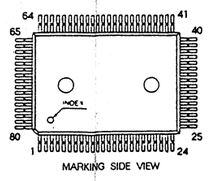


• Semiconductor Location

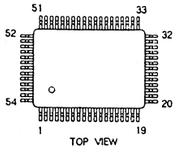
Ref. No.	Location
ZD701	O-4
ZD702	C-4
ZD703	O-5
IC701	O-4
IC702	F-4
Q701	M-3
Q702	M-3

• Semiconductor Lead Layouts

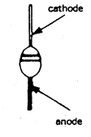
TC9240F



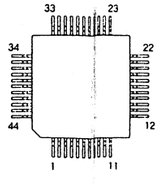
μPD75116GF-F13-3BE



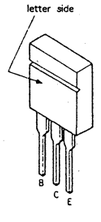
DSA3A4



μPD75008GF-658-3B4



2SD2137-OP



Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- ▭ : panel designation.
- Power voltage is fed from the hideaway unit.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- Voltages are taken with a VOM (10 MΩ/V). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.

Note on Printed Wiring Board:

- ○——— : parts extracted from the component side.
- ● : Through hole.
- ▨ : Pattern of the side which is seen.
- ▨ : Pattern of the rear side.

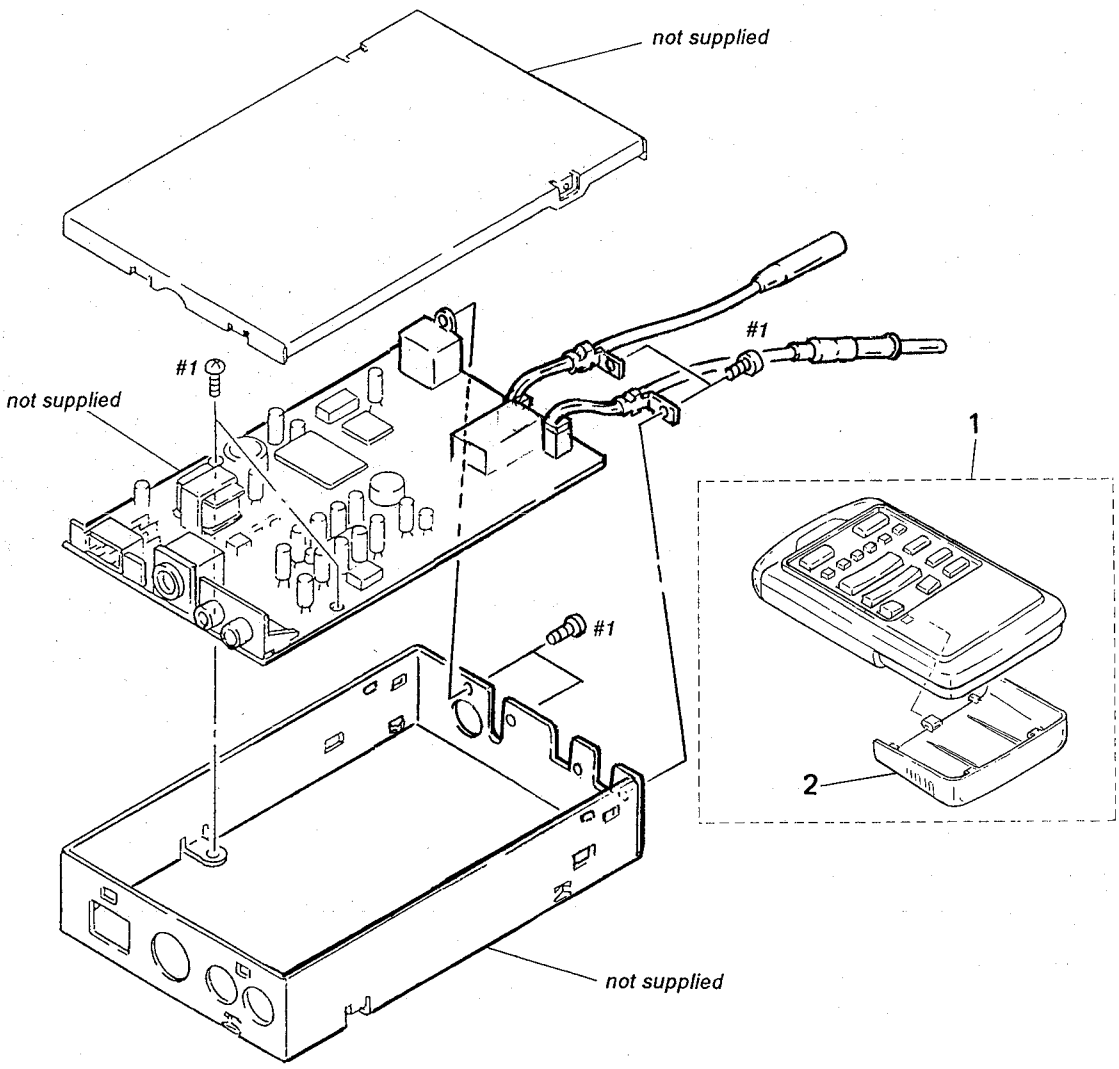
SECTION 4
EXPLODED VIEWS

NOTE:

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the last of this parts list.

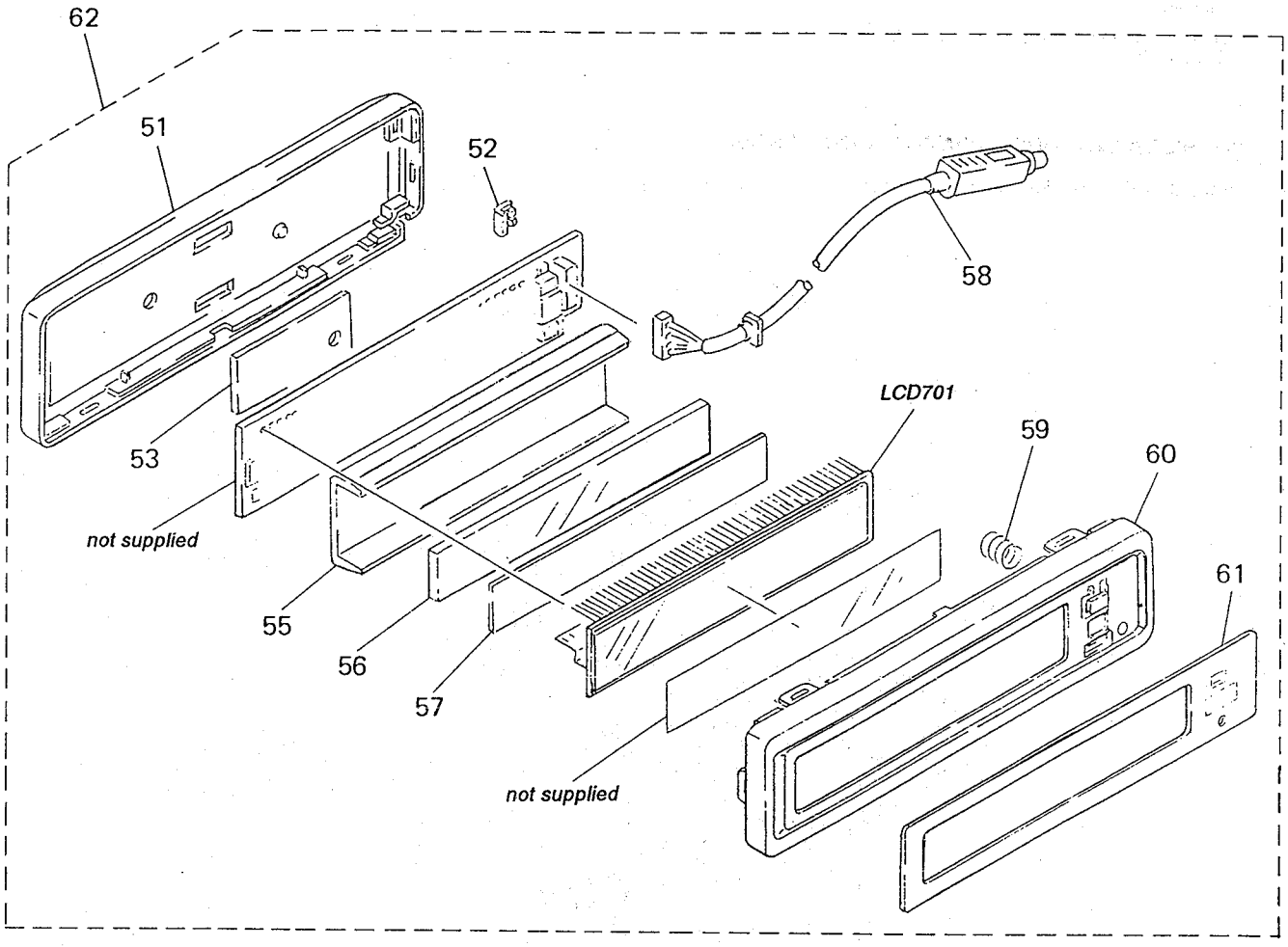
(1) HIDEAWAY UNIT, REMOTE COMMANDER

Note: Only the electrical parts are supplied for service in the hideaway unit.



Ref. No.	Part No.	Description	Remark
1	1-465-957-11	REMOTE COMMANDER (RM-X5)	
2	3-364-784-01	LID, BATTERY CASE	

(2) DISPLAY UNIT



Ref. No.	Part No.	Description	Remark
51	3-375-166-01	CASE (BACK)	
52	3-375-169-01	KNOB (ILLM)	
* 53	3-375-167-01	SHEET, INSULATING	
* 55	3-367-571-01	HOLDER (LCD)	
* 56	3-375-168-01	PLATE (LCD), LIGHT GUIDE	
* 57	3-368-252-01	SHEET (DIFFUSION)	

Ref. No.	Part No.	Description	Remark
58	1-590-280-41	CORD (WITH CONNECTOR)	
59	3-375-170-01	SPRING, EARTH	
60	3-375-165-21	CASE (FRONT)	
61	3-375-176-01	TRANSPARENCY PLATE	
62	1-466-648-31	DISPLAY UNIT	
LCD701	1-809-286-11	LCD	

SECTION 5
ELECTRICAL PARTS LIST

DISPLAY | MAIN

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ, for example:
  uA..: μA.. uPA..: μPA..
  uPB..: μPB.. uPC..: μPC.. uPD..: μPD..
- CAPACITORS
  uF: μF
- COILS
  uH: μH

When indicating parts by reference number, please include the board.

Ref.No.	Part No.	Description	Remark
		DISPLAY BOARD	
		**********	
		< CAPACITOR >	
C701	1-163-081-00	CERAMIC CHIP 0.22uF	
C702	1-163-081-00	CERAMIC CHIP 0.22uF	
C703	1-163-021-00	CERAMIC CHIP 0.01uF	
		< CONNECTOR >	
CN701	1-556-764-11	CONNECTOR 9P	
		< DIODE >	
ZD701	8-719-105-82	ZENER DIODE RD5.1M-B2	
ZD702	8-719-106-20	ZENER DIODE RD6.8M-B2	
ZD703	8-719-106-11	ZENER DIODE RD6.2M-B2	
		< IC >	
IC701	8-759-515-60	RS-20	
IC702	8-759-246-16	IC TC9240F	
		< LIQUID CRYSTAL DISPLAY >	
LCD701	1-809-286-11	LCD	
		< PILOT LAMP >	
PL701	1-518-524-21	LAMP (GREEN)	
PL702	1-518-524-21	LAMP (GREEN)	
PL703	1-518-646-21	LAMP (AMBER)	
PL704	1-518-646-21	LAMP (AMBER)	
		< TRANSISTOR >	
Q701	8-729-904-68	TRANSISTOR DTD113EK	
Q702	8-729-904 68	TRANSISTOR DTD113EK	
		< RESISTOR >	
R701	1-216-089-00	METAL CHIP 47K 5%	1/10W
R702	1-216-089-00	METAL CHIP 47K 5%	1/10W
R703	1-216-089-00	METAL CHIP 47K 5%	1/10W
R704	1-216-089-00	METAL CHIP 47K 5%	1/10W
R705	1-216-049-00	METAL CHIP 1K 5%	1/10W
R708	1-216-041-00	METAL CHIP 470 5%	1/10W
R709	1-216-097-00	METAL CHIP 100K 5%	1/10W
R710	1-216-049-00	METAL CHIP 1K 5%	1/10W
R711	1-216-049-00	METAL CHIP 1k 5%	1/10W
R712	1-216-049-00	METAL CHIP 1K 5%	1/10W
R713	1-216-049-00	METAL CHIP 1K 5%	1/10W
R714	1-216-049-00	METAL CHIP 1K 5%	1/10W
R715	1-216-037-00	METAL CHIP 330 5%	1/10W
		< SWITCH >	
SW701	1-572-648-11	SWITCH (POWER)	
SW702	1-572-648-11	SWITCH (RESET)	
SW703	1-554-669-11	SWITCH, SLIDE	
		< CABLE >	
W701	1-590-279-11		
**********			
		MAIN BOARD	
		**********	
		< CAPACITOR >	
C101	1-126-157-11	ELECT 10uF 20%	16V
C102	1-126-162-11	ELECT 3.3uF 20%	35V
C103	1-124-257-11	ELECT 2.2uF 20%	50V
C104	1-164-232-11	CERAMIC CHIP 0.01uF 10%	100V
C105	1-126-162-11	ELECT 3.3uF 20%	35V
C106	1-164-232-11	CERAMIC CHIP 0.01uF 10%	100V
C107	1-126-157-11	ELECT 10uF 20%	16V
C108	1-136-153-00	CERAMIC CHIP 0.01uF 5%	50V
C109	1-164-161-11	CERAMIC CHIP 2200PF 10%	100V
C110	1-163-141-00	CERAMIC CHIP 1000PF 5%	50V

MAIN

Ref. No.	Part No.	Description			Remark
C201	1-126-157-11	ELECT	10uF	20%	16V
C202	1-126-162-11	ELECT	3.3uF	20%	35V
C203	1-124-257-00	ELECT	2.2uF	20%	50V
C204	1-164-232-11	CERAMIC CHIP	0.01uF	10%	100V
C205	1-126-162-11	ELECT	3.3uF	20%	35V
C206	1-164-232-11	CERAMIC CHIP	0.01uF	10%	100V
C207	1-126-157-11	ELECT	10uF	20%	16V
C208	1-164-161-11	CERAMIC CHIP	2200PF	10%	100V
C209	1-163-141-00	CERAMIC CHIP	1000PF	5%	50V
C301	1-124-234-00	ELECT	22uF	20%	50V
C302	1-124-442-00	ELECT	330uF	20%	6.3V
C303	1-126-176-11	ELECT	220uF	20%	6.3V
C304	1-124-234-00	ELECT	22uF	20%	16V
C305	1-163-227-11	CERAMIC CHIP	10PF	5%	50V
C306	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C307	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C308	1-126-301-11	ELECT	1uF	20%	50V
C309	1-126-301-11	ELECT	1uF	20%	50V
C310	1-126-157-11	ELECT	10uF	20%	16V
C311	1-163-141-00	CERAMIC CHIP	1000PF	5%	50V
C312	1-163-227-11	CERAMIC CHIP	10PF	5%	50V
C313	1-163-253-11	CERAMIC CHIP	120PF	5%	50V
C314	1-126-162-11	ELECT	3.3uF	20%	35V
C315	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C316	1-163-094-00	CERAMIC CHIP	11PF	5%	50V
C317	1-163-253-00	CERAMIC CHIP	120PF	5%	50V
C318	9-902-787-01	TRIMMER	10PF		
C319	1-163-229-11	CERAMIC CHIP	12PF	5%	50V
C320	1-163-222-11	CERAMIC CHIP	0.25PF		50V
C321	1-163-227-11	CERAMIC CHIP	10PF	5%	50V
C322	1-163-229-11	CERAMIC CHIP	12PF	5%	50V
C323	1-163-220-11	CERAMIC CHIP	0.25PF		50V
C324	1-163-222-11	CERAMIC CHIP	0.25PF		50V
C325	9-902-787-01	TRIMMER	10PF		
C326	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C327	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C328	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C329	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C330	1-163-089-11	CERAMIC CHIP	0.5PF		50V
C331	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C401	1-124-589-11	ELECT	47uF	20%	10V
C402	1-124-234-00	ELECT	22uF	20%	16V
C403	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C404	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C405	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C406	1-125-559-11	FYHOH473Z	0.047F	Z%	5.5V
C407	1-124-229-00	ELECT	33uF	20%	10V
C408	1-126-301-11	ELECT	1uF	20%	50V
C409	1-124-343-00	ELECT	2200uF	20%	16V

Ref. No.	Part No.	Description			Remark
C410	1-126-163-11	ELECT	4.7uF	20%	50V
C411	1-163-038-00	CERAMIC CHIP	0.1uF	Z%	25V
C412	1-163-038-00	CERAMIC CHIP	0.1uF	Z%	25V
C501	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C502	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C503	1-164-232-11	CERAMIC CHIP	0.01uF	10%	100V
C504	1-126-157-11	ELECT	10uF	20%	16V
C505	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C506	1-163-038-00	CERAMIC CHIP	0.1uF	Z%	25V
C507	1-126-157-11	ELECT	10uF	20%	16V
C508	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C509	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
		< CONNECTOR >			
CN101	1-563-716-21	PIN, JACK (AUDIO IN)			
CN301	9-902-784-01	CONNECTOR			
CN302	9-902-784-01	CONNECTOR			
CN401	1-569-216-11	CONNECTOR			
CN501	1-580-907-11	CONNECTOR (UNILINK IN)			
CN502	1-580-489-11	CONNECTOR (DISPLAY)			
		< DIODE >			
D301	8-719-938-75	DIODE	SB05-05CP		
D302	8-719-400-18	DIODE	MA152WK		
D303	8-719-975-43	DIODE	RB420D		
D304	8-719-975-43	DIODE	RB420D		
D305	9-995-017-01	DIODE	KV1A50TL00		
D401	8-719-400-18	DIODE	MA152WK		
D402	8-719-945-59	DIODE	DSA3A4		
D403	8-719-400-18	DIODE	MA152WK		
D404	8-719-104-34	DIODE	1S2836		
D501	8-719-400-18	DIODE	MA152WK		
D502	8-719-400-15	DIODE	MA151WK		
D503	8-719-938-75	DIODE	SB05-05CP		
D504	8-719-400-18	DIODE	MA152WK		
D505	8-719-400-18	DIODE	MA152WK		
ZD401	8-719-106-44	ZENER DIODE	RD9.1M-B2		
ZD402	8-719-106-17	ZENER DIODE	RD6.8M-B2		
ZD403	8-719-106-16	ZENER DIODE	RD6.8M-B1		
ZD404	8-719-106-23	ZENER DIODE	RD7.5M-B2		
ZD405	8-719-106-23	ZENER DIODE	RD7.5M-B2		
ZD501	8-719-106-08	ZENER DIODE	RD6.2M-B2		
ZD502	8-719-106-08	ZENER DIODE	RD6.2M-B2		
ZD503	8-719-106-08	ZENER DIODE	RD6.2M-B2		
ZD504	8-719-106-08	ZENER DIODE	RD6.2M-B2		
ZD505	8-719-106-08	ZENER DIODE	RD6.2M-B2		
ZD506	8-719-106-08	ZENER DIODE	RD6.2M-B2		

Ref. No.	Part No.	Description	Remark
ZD507	8-719-106-08	ZENER DIODE RD6.2M-B2	
ZD508	8-719-106-08	ZENER DIODE RD6.2M-B2	
ZD509	8-719-106-08	ZENER DIODE RD6.2M-B2	
ZD510	8-719-106-62	ZENER DIODE RD11M-B2	
		< FILTER >	
FL301	9-995-026-01	FILTER, COIL	
		< IC >	
IC101	8-759-100-08	IC uPD1571C	
IC301	8-759-711-58	IC NJM78L05uA-TE1	
IC302	9-995-019-01	IC BA1404F	
IC401	8-759-940-45	IC S-8054HN-CB	
IC501	8-759-981-65	IC LM2903M	
IC502	8-759-981-65	IC LM2903M	
IC503	8-759-055-05	IC uPD75008GB-658-3B4	
IC504	8-759-055-04	IC uPD75116GF-F13-3BE	
		< COIL >	
L301	9-996-062-01	VARIABLE COIL	
L302	1-410-320-11	PEAKING COIL 2.2uH	
L303	1-410-365-11	PEAKING COIL 0.56uH	
L401	1-410-973-11	PEAKING COIL 22uH	
L402	1-421-359-00		
L501	1-410-971-11	PEAKING COIL 10uH	
		< TRANSISTOR >	
Q101	8-729-924-90	TRANSISTOR 2SB1370-EF	
Q201	8-729-924-90	TRANSISTOR 2SB1370-EF	
Q301	8-729-120-28	TRANSISTOR 2SC1C1623-L5L6	
Q302	8-729-216-22	TRANSISTOR 2SA1162-G	
Q303	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q304	8-729-216-22	TRANSISTOR 2SA1162-G	
Q305	8-729-101-25	TRANSISTOR 2SC1009A	
Q306	8-729-101-25	TRANSISTOR 2SC1009A	
Q401	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q402	8-729-901-01	TRANSISTOR DTC144EK	
Q403	8-729-901-05	TARNSISTOR DTA124EK	
Q404	8-729-901-01	TRANSISTOR DTC144EK	
Q405	8-729-901-05	TRANSISTOR DTA124EK	
Q406	8-729-106-68	TRANSISTOR 2SD1615A-GP	
Q407	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q408	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q409	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q410	8-729-900-51	TRANSISTOR DTA114TK	
Q411	8-729-805-25	TRANSISTOR 2SB1121	
Q412	8-729-900-53	TRANSISTOR DTC114EK	
Q501	8-729-216-22	TRANSISTOR 2SA1162-G	

Ref. No.	Part No.	Description	Remark
Q502	8-729-216-22	TRANSISTOR 2SA1162-G	
Q503	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q504	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q505	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q506	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q507	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q508	8-729-216-22	TRANSISTOR 2SA1162-G	
Q509	8-729-423-99	TRANSISTOR 2SD2137	
Q510	8-729-901-05	TRANSISTOR DTA124EK	
Q511	8-729-901-01	TRANSISTOR DTC144EK	
Q512	8-729-901-05	TRANSISTOR DTA124EK	
Q513	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q514	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q515	8-729-901-01	TRANSISTOR DTC144EK	
		< RESISTOR >	
R101	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R102	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R103	1-216-079-00	METAL CHIP 18K 5% 1/10W	
R104	1-216-079-00	METAL CHIP 18K 5% 1/10W	
R105	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R106	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R107	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R108	1-216-045-00	METAL CHIP 680 5% 1/10W	
R109	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R110	1-216-047-00	METAL CHIP 820 5% 1/10W	
R111	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R112	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R113	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R114	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R201	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R202	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R203	1-216-079-00	METAL CHIP 18K 5% 1/10W	
R204	1-216-079-00	METAL CHIP 18K 5% 1/10W	
R205	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R206	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R207	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R208	1-216-045-00	METAL CHIP 680 5% 1/10W	
R209	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R210	1-216-047-00	METAL CHIP 820 5% 1/10W	
R211	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R212	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R213	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R214	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R301	1-216-016-11	METAL CHIP 3.3K 5% 1/10W	
R302	1-216-043-00	METAL CHIP 560 5% 1/10W	
R303	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R304	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R305	1-216-073-00	METAL CHIP 10K 5% 1/10W	

MAIN

Ref. No.	Part No.	Description			Remark
R306	1-216-043-00	METAL CHIP	560	5%	1/10W
R307	1-216-089-00	METAL CHIP	47K	5%	1/10W
R308	1-216-033-00	METAL CHIP	220	5%	1/10W
R309	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R310	1-216-092-00	METAL CHIP	62K	5%	1/10W
R311	1-216-043-00	METAL CHIP	560	5%	1/10W
R312	1-216-077-00	METAL CHIP	15K	5%	1/10W
R313	1-216-073-00	METAL CHIP	10K	5%	1/10W
R314	1-216-041-00	METAL CHIP	470	5%	1/10W
R315	1-216-021-00	METAL CHIP	68	5%	1/10W
R316	1-216-019-00	METAL CHIP	56	5%	1/10W
R317	1-216-073-00	METAL CHIP	10K	5%	1/10W
R318	1-216-077-00	METAL CHIP	15K	5%	1/10W
R319	1-216-033-00	METAL CHIP	220	5%	1/10W
R320	1-216-073-00	METAL CHIP	10K	5%	1/10W
R321	1-216-077-00	METAL CHIP	15K	5%	1/10W
R322	1-216-033-00	METAL CHIP	220	5%	1/10W
R401	1-216-049-00	METAL CHIP	1K	5%	1/10W
R402	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R403	1-216-089-00	METAL CHIP	47K	5%	1/10W
R404	1-216-073-00	METAL CHIP	10K	5%	1/10W
R405	1-216-073-00	METAL CHIP	10K	5%	1/10W
R406	1-216-109-00	METAL CHIP	330K	5%	1/10W
R407	1-216-089-00	METAL CHIP	47K	5%	1/10W
R408	1-216-089-00	METAL CHIP	47K	5%	1/10W
R409	1-216-091-00	METAL CHIP	56K	5%	1/10W
R410	1-216-083-00	METAL CHIP	27K	5%	1/10W
R411	1-216-089-00	METAL CHIP	47K	5%	1/10W
R412	1-216-089-00	METAL CHIP	47K	5%	1/10W
R413	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R414	1-216-073-00	METAL CHIP	10K	5%	1/10W
R415	1-216-001-00	METAL CHIP	10		
R416	1-216-091-00	METAL CHIP	56K	5%	1/10W
R417	1-216-049-00	METAL CHIP	1K	5%	1/10W
R501	1-216-025-00	METAL CHIP	100	5%	1/10W
R502	1-216-089-00	METAL CHIP	47K	5%	1/10W
R503	1-216-089-00	METAL CHIP	47K	5%	1/10W
R504	1-216-049-00	METAL CHIP	1K	5%	1/10W
R505	1-216-025-00	METAL CHIP	100	5%	1/10W
R506	1-216-081-00	METAL CHIP	22K	5%	1/10W
R507	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R508	1-216-097-00	METAL CHIP	100K	5%	1/10W
R509	1-216-063-00	METAL CHIP	3.9K	5%	1/10W
R510	1-216-081-00	METAL CHIP	22K	5%	1/10W
R511	1-216-081-00	METAL CHIP	22K	5%	1/10W
R512	1-216-073-00	METAL CHIP	10K	5%	1/10W
R513	1-216-081-00	METAL CHIP	22K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R514	1-216-089-00	METAL CHIP	47K	5%	1/10W
R515	1-216-089-00	METAL CHIP	47K	5%	1/10W
R516	1-216-097-00	METAL CHIP	100K	5%	1/10W
R517	1-216-049-00	METAL CHIP	1K	5%	1/10W
R518	1-216-089-00	METAL CHIP	47K	5%	1/10W
R519	1-216-073-00	METAL CHIP	10K	5%	1/10W
R520	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R521	1-216-041-00	METAL CHIP	470	5%	1/10W
R522	1-216-081-00	METAL CHIP	22K	5%	1/10W
R523	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R524	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R525	1-216-063-00	METAL CHIP	3.9K	5%	1/10W
R526	1-216-089-00	METAL CHIP	47K	5%	1/10W
R527	1-216-089-00	METAL CHIP	47K	5%	1/10W
R528	1-216-081-00	METAL CHIP	22K	5%	1/10W
R529	1-216-073-00	METAL CHIP	10K	5%	1/10W
R530	1-216-049-00	METAL CHIP	1K	5%	1/10W
R531	1-216-049-00	METAL CHIP	1K	5%	1/10W
R532	1-216-049-00	METAL CHIP	1K	5%	1/10W
R533	1-216-049-00	METAL CHIP	1K	5%	1/10W
R534	1-216-049-00	METAL CHIP	1K	5%	1/10W
R535	1-216-049-00	METAL CHIP	1K	5%	1/10W
R536	1-216-049-00	METAL CHIP	1K	5%	1/10W
R537	1-216-089-00	METAL CHIP	47K	5%	1/10W
R538	1-216-073-00	METAL CHIP	10K	5%	1/10W
R540	1-216-105-00	METAL CHIP	220K	5%	1/10W
R541	1-216-097-00	METAL CHIP	100K	5%	1/10W
R543	1-216-097-00	METAL CHIP	100K	5%	1/10W
R544	1-216-105-00	METAL CHIP	220K	5%	1/10W
R545	1-216-089-00	METAL CHIP	47K	5%	1/10W
R547	1-216-105-00	METAL CHIP	220K	5%	1/10W

< RELAY >

RL301	9-995-016-01	RELAY

< PROTECTOR >

SP301	1-519-504-11	SURGE PROTECTOR

< SWITCH >

SW101	1-570-114-11	SWITCH (LEVEL)
SW301	1-570-114-11	SWITCH (88.3←88.7)
SW501	9-902-779-01	SWITCH (POWER SELECT)

< VARIABLE RESISTOR >

VR301	1-230-526-11	RES, ADJ, METAL 47K
VR302	1-237-601-11	RES, ADJ, METAL 470

< CABLE >

Ref. No.	Part No.	Description	Remark
W301	9-902-782-01	ANT CABLE (JACK)	
W302	9-902-783-01	ANT CABLE (PLUG)	
		< VIBRATOR >	
X301	1-567-093-00	OSCILLATOR (38KHz)	
X302	9-995-027-01	OSCILLATOR (29.5MHz)	
X501	1-577-273-11	OSCILLATOR (4.19MHz)	
X502	1-567-821-11	OSCILATTOR, CRYSTAL (4.19MHz)	

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HARDWARE LIST
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#1	7-685-751-01	SCREW M3-6

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• MOUNTING HARDWARE

501	3-365-669-01	TAPE (MALE)
502	3-365-670-01	TAPE (FEMALE)
503	3-378-208-11	HOLDER (DISPLAY) (US, CND)